Refine Search

Search Results -

Term	Documents
@PD	37628441
(38 AND (@PD > "20060901")).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	0
(L38 AND @PD > 20060901).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	0

Database:
US Pre-Grant Publication Full-Text Database
US Patents Full-Text Database
US OCR Full-Text Database
EPO Abstracts Database
JPO Abstracts Database
Derwent World Patents Index
IBM Technical Disclosure Bulletins

Search: L39

Refine Search

Recall Text | Clear | Interrupt

Search History

DATE: Friday, September 01, 2006 Purge Queries Printable Copy Create Case

Set Name side by side	Query	Hit Count	Set Name result set
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L39	L38 and @pd > 20060901	0	L39
L38	L37 and L34	16	L38
L37	L28 and L26 and L30 and L33	424	L37
L36	L34 and digital adj filter	4	L36
L35	L34 and filter	28	L35
L34	L29 and (digital adj circuit)	52	L34
L33	L29 and (digital with circuit)	874	L33
L32	L29 and (digital with ciecuit)	0	L32
L31	L29 and (digital near4 ciecuit)	0	L31

L30	L29 and digital	5174	L30
L29	L28 and gradient	27906	L29
L28	(magnetic adj resonance)	95512	L28
L27	(magnetic adj resonace)	71	L27
L26	(324/300 |324/301 |324/302 |324/303 |324/304 |324/305 |324/306 |324/307 |324/308 |324/309 |324/310 |324/311 |324/312 |324/313 |324/314 |324/315 |324/316 |324/317 |324/318 |324/319 |324/320 |324/321 |324/322 600/410 |600/420 |600/422).ccls.	9684	L26
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L24	5349296	20	L24
L23	5867027	6	L23
L22	L21	6	L22
L21	6191582	6	L21
L20	6154030	6	L20
L19	L18 and L15	16	L19
L18	L9 and L7 and L11 and L14	424	L18
L17	L15 and digital adj filter	4	L17
L16	L15 and filter	28	L16
L15	L10 and (digital adj circuit)	52	L15
L14	L10 and (digital with circuit)	874	L14
L13	L10 and (digital with ciecuit)	0	L13
L12	L10 and (digital near4 ciecuit)	0	L12
L11	L10 and digital	5174	L11
L10	L9 and gradient	27906	L10
L9	(magnetic adj resonance)	95512	L9
L8	(magnetic adj resonace)	71	L8
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L4	5867027	6	L4
L3	L2	6	L3
L2	6191582	6	L2
L1	6154030	6	L1

END OF SEARCH HISTORY

Purge Queries

Purge?	L Num	Query	DB	Hits
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☐	L3	L2	PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD	6
☐	L4	5867027	PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD	6
☐	L5	5349296	PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD	20
☐	L6	324/300-322.ccls. 600/410,420,422.ccls.	PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD	0
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☐	L8	(magnetic adj resonace)	PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD	71
☐	L9	(magnetic adj resonance)	PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD	95512
☐	L10	L9 and gradient	PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD	27906
☐	L11	L10 and digital	PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD	5174
☐	L12	L10 and (digital near4 ciecuit)	PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD	0
☐	L13	L10 and (digital with ciecuit)	PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD	0
☐	L14	L10 and (digital with circuit)	PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD	874
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☐	L16	L15 and filter	PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD	28
☐	L17	L15 and digital adj filter	PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD	4
☐	L18	L9 and L7 and L11 and L14	PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD	424
☐	L19	L18 and L15	PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD	16
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Purge Selected Queries Uncheck ALL

Purge ALL Queries Return

Purge Queries

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☐	L4	5867027	PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD	6
☐	L5	5349296	PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD	20
☐	L6	324/300-322.ccls. 600/410,420,422.ccls.	PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD	0
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☐	L9	(magnetic adj resonance)	PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD	95512
☐	L10	L9 and gradient	PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD	27906
☐	L11	L10 and digital	PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD	5174
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DATE: Friday, September 01, 2006

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☐	L18	L9 and L7 and L11 and L14	424
☐	L17	L15 and digital adj filter	4
☐	L16	L15 and filter	28
☐	L15	L10 and (digital adj circuit)	52
☐	L14	L10 and (digital with circuit)	874

☐	L13	L10 and (digital with ciecuit)	0
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☐	L10	L9 and gradient	27906
☐	L9	(magnetic adj resonance)	95512
☐	L8	(magnetic adj resonace)	71
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☐	L1	6154030	6

END OF SEARCH HISTORY

Hit List

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Search Results - Record(s) 1 through 16 of 16 returned.

☐ 1. Document ID: US 5227728 A Relevance Rank: 88

L19: Entry 14 of 16 File: USPT Jul 13, 1993

US-PAT-NO: 5227728
DOCUMENT-IDENTIFIER: US 5227728 A

TITLE: Gradient driver control in magnetic resonance imaging

DATE-ISSUED: July 13, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kaufman; Leon	San Francisco	CA		
Carlson; Joseph W.	Kensington	CA		
Gran; Richard	Farmingdale	NY		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
The Regents of the University of California	Oakland	CA			02

APPL-NO: 07/786828 [PALM]
DATE FILED: November 1, 1991

INT-CL-ISSUED: [05] G01V 3/00

INT-CL-CURRENT:

TYPE	IPC	DATE
CIPS	G01 R 33/38	20060101
CIPS	G01 R 33/389	20060101
CIPS	G01 R 33/385	20060101

US-CL-ISSUED: 324/322; 324/318
US-CL-CURRENT: 324/322; 324/318

FIELD-OF-CLASSIFICATION-SEARCH: 324/322, 324/318, 324/312, 324/313, 324/319, 128/653.5
See application file for complete search history.

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
4612596	September 1986	Fox	324/322
4703275	October 1987	Holland	324/322
4755755	July 1988	Carlson	324/319
4788502	November 1988	Keller et al.	324/318
4829252	May 1989	Kaufman	324/309
4885542	December 1989	Yao et al.	324/313
4928063	May 1990	Lampman et al.	324/324
4970457	November 1990	Kaufman et al.	324/309

OTHER PUBLICATIONS

"Passive Screening of Switched Magnetic Field Gradients" by R. Turner et al.-J. Phys. E. Sci., Instrum 19 (1986).

ART-UNIT: 263

PRIMARY-EXAMINER: Arana; Louis

ATTY-AGENT-FIRM: Nixon & Vanderhye

ABSTRACT:

Electromagnet coil driving circuitry in a magnetic resonance imaging system is modified to include a flux-driven closed-loop real-time feedback control. The result is more accurate and efficient control of the net actual gradient flux generated by the coil even in the presence of magnetic circuit materials exhibiting hysteresis effects and/or electrical conductors giving rise to eddy current effects. Such driver control can be used to simultaneously correct the magnetic flux changes induced by environmental, ambient or other outside disturbances affecting the net magnetic field within a patient imaging volume of a magnetic resonance imaging system.

31 Claims, 9 Drawing figures

☐ 2. Document ID: US 5442290 A Relevance Rank: 87

L19: Entry 13 of 16 File: USPT Aug 15, 1995

US-PAT-NO: 5442290
DOCUMENT-IDENTIFIER: US 5442290 A

TITLE: MRI gradient drive current control using all digital controller

DATE-ISSUED: August 15, 1995

5066914	November 1991	Vavrek et al.	324/309
5153516	October 1992	Gopalsami et al.	324/309
5227728	July 1993	Kaufman et al.	324/318
5250901	October 1993	Kaufman et al.	324/318

OTHER PUBLICATIONS

Motorola Manual--"Linear/switchmode Voltage Regulator Handbook", HB206 Rev. 2--pp. 79-143.
J. Phys. E. Sci. Instrum. 19 (1986)--"Passive screening of switched magnetic field gradients" by R. Turner and R. Bowley, pp. 876-879.

ART-UNIT: 268

PRIMARY-EXAMINER: O'Shea; Sandra L.

ASSISTANT-EXAMINER: Mah; Raymond Y.

ATTY-AGENT-FIRM: Nixon & Vanderhye

ABSTRACT:

An all digital controlled current driver is used for each pulsed electromagnet (e.g., gradient coils) in a magnetic resonance imaging (MRI) system. Such an all digital current controller may be advantageously employed in either closed loop or open loop gradient coil control circuits. The elimination of analog components decreases cost, increases operating efficiency and improves operating characteristics of the MRI system.

19 Claims, 6 Drawing figures

☐ 3. Document ID: US 6285304 B1 Relevance Rank: 87

L19: Entry 5 of 16 File: USPT Sep 4, 2001

US-PAT-NO: 6285304
DOCUMENT-IDENTIFIER: US 6285304 B1

TITLE: Analog-to-digital converter circuit and control device for a gradient amplifier of a magnetic resonance imaging system

DATE-ISSUED: September 4, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schweighofer; Peter	Nuernberg			DE

ASSIGNEE-INFORMATION:

ART-UNIT: 289

PRIMARY-EXAMINER: Wamsley; Patrick

ATTY-AGENT-FIRM: Schiff Hardin & Waite

ABSTRACT:

In an analog-to-digital converter circuit and a control device for a gradient amplifier, an analog difference signal is determined from an analog input signal and an analog converter signal. An integrator and an analog-to-digital converter are provided in order to integrate and digitalize the analog difference signal before further evaluation, thereby achieving high precision, resolution and stability with little outlay.

14 Claims, 2 Drawing figures

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw. D

☐ 4. Document ID: US 20050052182 A1 Relevance Rank: 87

L19: Entry 2 of 16 File: PGPB Mar 10, 2005

PGPUB-DOCUMENT-NUMBER: 20050052182
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20050052182 A1

TITLE: Apparatus and method for magnetic resonance measurement and mapping of electrical impedance, complex permittivity and complex conductivity as applied to detection and evaluation of sample pathology

PUBLICATION-DATE: March 10, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Wollin, Ernest	Marathon	FL	US

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	COUNTRY	TYPE CODE
Wollin Ventures, Inc.				02

APPL-NO: 10/902263 [PALM]
DATE FILED: July 30, 2004

RELATED-US-APPL-DATA:
Application 10/902263 is a continuation-in-part-of US application PCT/US03/27122, filed August 29, 2003, PENDING
Application is a non-provisional-of-provisional application 60/406924, filed August 30, 2002,

INT-CL-PUBLISHED: [07] G01V 3/00

INT-CL-CURRENT:

TYPE	IPC	DATE
CIPP	G01 V 3/00	20060101

US-CL-PUBLISHED: 324/307; 324/309
US-CL-CURRENT: 324/307; 324/309

REPRESENTATIVE-FIGURES: 1, 7

ABSTRACT:

A method of measurement of or mapping the distribution of complex permittivity, complex conductivity, complex impedance, or electric loss angle during magnetic resonance imaging or analysis. The method includes applying a time-varying electric field of a Faraday shield to a sample and cross-correlating the line spectrum signal so produced with the voltage applied to the Faraday shield in a detection circuit. The method permits non-contrast magnetic resonance screening for breast cancer in vivo and/or continuous measurement of electrical characteristics of materials at variable frequencies in vitro. A system of detecting and evaluating sample pathology includes a Faraday shield device that includes parallel electrodes oriented orthogonal to the static magnetic field of a MRI device to produce a time varying electric field. A detector is coupled to the MRI device to detect at least one of a complex permittivity, a complex conductivity, and an electrical impedance of the sample.

RELATED APPLICATIONS

[0001] This application claims benefit of priority to PCT Application No. PCT/US03/27122, filed on Aug. 29, 2003 and Provisional Application No. 60/406,924, filed on Aug. 30, 2002, incorporated by reference herein in its entirety.

☐ 5. Document ID: US 5876337 A Relevance Rank: 86

L19: Entry 9 of 16 File: USPT Mar 2, 1999

US-PAT-NO: 5876337
DOCUMENT-IDENTIFIER: US 5876337 A

TITLE: Magnetic resonance imaging apparatus and method for correcting the intensity of the static magnetic field of the apparatus

DATE-ISSUED: March 2, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Tsuda; Munetaka	Mito			JP

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE

uniformity of the static magnetic field in a region of an object under examination is improved and image distortion is suppressed. The MRI apparatus can be effectively applied to a fast imaging technique, an imaging technique where NMR signals of adipose tissue are suppressed, and a high resolution spectrum.

17 Claims, 7 Drawing figures

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw. D

☐ 6. Document ID: US 6362622 B1 Relevance Rank: 86

L19: Entry 4 of 16 File: USPT Mar 26, 2002

US-PAT-NO: 6362622
DOCUMENT-IDENTIFIER: US 6362622 B1

TITLE: Method and apparatus to embed and retrieve attribute information in magnetic resonance imaging coils

DATE-ISSUED: March 26, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Stauber; John R.	Fairview Park	OH		
Burl; Michael	Chagrin Falls	OH		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Philips Medical Systems, (Cleveland) Inc.	Highland Heights	OH			02

APPL-NO: 09/516002 [PALM]
DATE FILED: February 29, 2000

INT-CL-ISSUED: [07] G01V 3/00

INT-CL-CURRENT:

TYPE	IPC	DATE
CIPP	G01 R 33/28	20060101

US-CL-ISSUED: 324/318; 324/322
US-CL-CURRENT: 324/318; 324/322

FIELD-OF-CLASSIFICATION-SEARCH: 324/318, 324/322, 324/300, 324/314, 324/307, 324/309, 600/410, 600/421, 600/423, 340/652, 340/572
See application file for complete search history.

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
4972852	November 1990	Koob et al.	128/653R
5065760	November 1991	Krause et al.	128/653.5
5461314	October 1995	Arakawa et al.	324/318
5657761	August 1997	Okada et al.	128/660.01
5689242	November 1997	Sims et al.	340/652
RE36495	January 2000	Blakeley et al.	600/410

OTHER PUBLICATIONS

Dallas Semiconductor, DS2433 4K-BIT 1-Wire.TM., EEPROM, Dec. 1999, pp. 1-18.

ART-UNIT: 2862

PRIMARY-EXAMINER: Arana; Louis

ATTY-AGENT-FIRM: Fay, Sharpe, Fagan, Minnich & McKee, LLP

ABSTRACT:

A magnetic resonance imaging system includes a patient couch (10) which selectively positions a patient relative to an examination region (14). An imaging coil (B) is disposed adjacent to a region of interest for receiving magnetic resonance signals emanating from the patient. A processor (48) both controls the imaging event and processes received signals from the imaging coil. A plug and socket assembly (24, 26) having a proximal component and a distal component relative to the imaging coil provides selective electrical connectivity between the imaging coil (B) and the processor (48). A non-volatile memory device (86), such as a 1-WIRE.TM. EEPROM, is affixed to the proximal component of the plug and socket assembly (24, 26) for storing a variety attributes associated with the imaging coil. The memory device is most conveniently mounted to a coaxial connector (110).

17 Claims, 6 Drawing figures

☐ 7. Document ID: US 5546001 A Relevance Rank: 86

L19: Entry 12 of 16 File: USPT Aug 13, 1996

US-PAT-NO: 5546001
DOCUMENT-IDENTIFIER: US 5546001 A

TITLE: Switching signal generator and magnetic resonance imaging system using the same

DATE-ISSUED: August 13, 1996

ATTY-AGENT-FIRM: Limbach & Limbach L.L.P. Yin; Ronald L.

ABSTRACT:

There provided is a switching signal generator mounted in a system for handling a signal of a predetermined frequency band. A magnetic resonance imaging (MRI) system is one of the preferred systems. The generator comprises an element for supplying a switching signal of a switching frequency to a switching device mounted in the system and operated by pulse width modulation, the switching frequency being able to be changed in response to a control signal. The generator further comprises an element for adjusting the switching frequency by supplying the control signal to the switching signal supplying element so that a frequency which is product of the switching frequency and an integer falls out of the predetermined frequency band. In case of the MRI system, the predetermined frequency band is an image frequency band. As a result, the so-called F1 noise can be avoidable from the image.

9 Claims, 10 Drawing figures

☐ 8. Document ID: US 5800354 A Relevance Rank: 86

L19: Entry 10 of 16 File: USPT Sep 1, 1998

US-PAT-NO: 5800354
DOCUMENT-IDENTIFIER: US 5800354 A

TITLE: Method of and device for magnetic resonance imaging

DATE-ISSUED: September 1, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hofland; Lennart	Eindhoven			NL
Savord; Bernard J.	Andover	MA		
Scampini; Steven A.	Bedford	MA		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
U.S. Phillips Corporation	New York	NY			02
Hewlett-Packard	Palo Alto	CA			02

APPL-NO: 08/345026 [PALM]
DATE FILED: November 23, 1994

INT-CL-ISSUED: [06] A61B 5/055

INT-CL-CURRENT:

TYPE IPC	DATE

the navigator signals (640) and to apply the derived corrections to the received echo signals (641, 642). Also this method could be combined with ECG-triggering and respiratory gating.

18 Claims, 8 Drawing figures

☐ 9. Document ID: US RE36495 E Relevance Rank: 86

L19: Entry 7 of 16 File: USPT Jan 11, 2000

US-PAT-NO: RE36495
DOCUMENT-IDENTIFIER: US RE36495 E

TITLE: RF coil identification and testing interface for NMR systems

DATE-ISSUED: January 11, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Blakeley; Douglas M.	Euclid	OH		
Molyneaux; David A.	Gainesville	FL		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Picker International, Inc.	Highlands Heights	OH			02

APPL-NO: 09/146889 [PALM]
DATE FILED: September 2, 1998

REISSUE-DATA:

US-PAT-NO	DATE-ISSUED	APPL-NO	DATE-FILED
05551430	September 3, 1996	286780	August 5, 1994

INT-CL-ISSUED: [06] A61B 5/055

INT-CL-CURRENT:

TYPE	IPC	DATE
CIPP	G01 R 33/28	20060101

US-CL-ISSUED: 600/410; 324/318, 324/322
US-CL-CURRENT: 600/410; 324/318, 324/322

FIELD-OF-CLASSIFICATION-SEARCH: 600/410, 600/421, 600/422, 324/307, 324/309, 324/318, 324/322
See application file for complete search history.

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
4972852	November 1990	Koob et al.	128/653R
5065760	November 1991	Krause et al.	128/653.5
5144244	September 1992	Kess	324/322
5457387	October 1995	Patrick et al.	324/318
5461314	October 1995	Arakawa et al.	324/318

ART-UNIT: 377

PRIMARY-EXAMINER: Casler; Brian L.

ATTY-AGENT-FIRM: Fay, Sharpe, Fagan, Minnich & McKee, LLP

ABSTRACT:

A movable patient supporting portion (10) of a patient couch (A) includes a socket (26) for receiving a mating plug (24) on a localized coil (B). The patient couch selectively inserts the localized coil and a supported patient into a bore (14) of a cryogenic magnet system (C). The localized coil includes a resistor (86) whose magnitude identifies the coil. A coil identification interrogator (84) interrogates the coil identification resistor and derives a corresponding binary coil identification. The coil identification addresses a look-up table (90) to retrieve diagnostic test information, an identification of a coil for a human-readable display, and, preferably, an identification of an isocenter of the coil. A diagnostic test unit (92) electrically tests the coil through the plug and socket connection with the diagnostic tests prescribed by the look-up table. A display interface (94) converts error messages from the diagnostic test unit and the coil identification from the look-up table into appropriate format for a display (40). A couch computer (18) controls a motor (20) in accordance with the isocenter of the coil from the look-up table to control positioning of the patient and the localized coil.

30 Claims, 4 Drawing figures

☐ 10. Document ID: US 5938600 A Relevance Rank: 86

L19: Entry 8 of 16 File: USPT Aug 17, 1999

US-PAT-NO: 5938600
DOCUMENT-IDENTIFIER: US 5938600 A

TITLE: Method and device for heating by means of ultrasound

DATE-ISSUED: August 17, 1999

OTHER PUBLICATIONS

Ehman et al, "Adaptive Technique for High-Definition MR Imaging of Moving Structures", Radiology vol. 173 No. 1, 1989 pp. 255-263.
"On-Line MIR Monitored Noninvasive Ultrasound Surgery" K. Hynynen et al, Proceedings of the Annual International Conference of the IEEE Engineering in Medicine and Biology Society, vol. 14, Paris, France, Oct. 29-Nov. 1, 1992.

ART-UNIT: 377

PRIMARY-EXAMINER: Smith; Ruth S.

ATTY-AGENT-FIRM: Renfrew, Jr.; Dwight H.

ABSTRACT:

A method of heating a target region by ultrasound radiation includes determination of a position of the target region by a magnetic resonance method. The device for carrying out this method includes an ultrasound device and an MR device. By determining movement of the target region utilizing the MR device (100) and an appropriate magnetic resonance method, and by coupling the movement information to the ultrasound device (118) by an electric signal (122, 124), it is achieved that the ultrasound device can be controlled by the movement information. Various possibilities exist for controlling the ultrasound device. According to a first possibility, the focal region is adjusted to be situated within the target region in order to generate ultrasound. Another possibility is to determine from the movement information the instant at which the target region is situated within the focal region of the ultrasound and to generate ultrasound exclusively for a brief subsequent period during which the focal region is still within the target region. Another possibility is to refrain from generating ultrasound when the movement speed is too high. Finally, the movement information can also be used for making the focal region follow the target region during the generation of ultrasound.

21 Claims, 10 Drawing figures

☐ 11. Document ID: US 6118681 A Relevance Rank: 86

L19: Entry 6 of 16 File: USPT Sep 12, 2000

US-PAT-NO: 6118681
DOCUMENT-IDENTIFIER: US 6118681 A

TITLE: Gradient amplifier for a magnetic resonance tomography apparatus and method for controlling same

DATE-ISSUED: September 12, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schweighofer; Peter	Nuremberg			DE

ABSTRACT:

In a gradient amplifier for a nuclear magnetic resonance tomography apparatus and a method for operating same, a reference value unit for providing a reference value for a gradient coil current, an actual value unit for determining an actual value of the gradient coil current, a control unit for determining a setting value, a modulator for generating at least one output stage drive signal and an output stage for generating an output signal across the coil are provided. The precision of the reference value and the precision of the actual value are higher by at least the factor of 10 than the precision of the setting value and/or of the at least one output stage drive signal and/or of the output signal. As a result, the gradient amplifier has a precision that is high enough to avoid disturbances affecting in the image can be realized with relatively little outlay.

22 Claims, 1 Drawing figures

☐ 12. Document ID: US 4992736 A Relevance Rank: 86

L19: Entry 15 of 16 File: USPT Feb 12, 1991

US-PAT-NO: 4992736
DOCUMENT-IDENTIFIER: US 4992736 A

TITLE: Radio frequency receiver for a NMR instrument

DATE-ISSUED: February 12, 1991

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Stormont; Robert S.	Waukesha	WI		
Anas; Michael C.	Germantown	WI		
Pelc; Norbert J.	Wauwatosa	WI		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
General Electric Company	Milwaukee	WI			02

APPL-NO: 07/389456 [PALM]
DATE FILED: August 4, 1989

INT-CL-ISSUED: [05] G01R 33/20

INT-CL-CURRENT:

TYPE IPC	DATE
CIPS G01 R 33/32	20060101
CIPS G01 R 33/341	20060101
CIPS G01 R 33/34	20060101

CIPS G01 R 33/36 20060101

US-CL-ISSUED: 324/309
US-CL-CURRENT: 324/309

FIELD-OF-CLASSIFICATION-SEARCH: 455/60, 375/39, 375/75, 375/99, 375/103, 324/309, 324/310, 324/311, 324/312, 324/313, 324/314, 324/322, 318/611
See application file for complete search history.

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
3423529	January 1969	O'Neill, Jr.	375/39
3443229	May 1969	Becker	375/39
3522537	August 1970	Boughtwood	375/39
4740753	April 1988	Glover	324/320
4839573	June 1989	Wise	318/611

ART-UNIT: 265

PRIMARY-EXAMINER: Tokar; Michael J.

ATTY-AGENT-FIRM: Quarles & Brady

ABSTRACT:

A receiver processes an NMR signal to produce a baseband image information signal from which two quadrature component signals are derived. An intermediate frequency section mixes the received NMR signal with two reference signals to shift the image information into a frequency band having a bandwidth BW and centered at a frequency that is 1.5 times the bandwidth BW. The resultant signal is filtered to remove extraneous signals outside the image information band. An analog to digital converter samples the filtered signal at a rate that is twice the bandwidth BW and digitizes the samples into a digital signal. A quadrature detector derives I and Q output signals from the digital signal by alternately selecting digital samples and negating every other sample selected for each of the I and Q output signals. The quadature detector also digitally filters the I and Q signals which are then used to construct an NMR image.

16 Claims, 10 Drawing figures

☐ 13. Document ID: US 5551430 A Relevance Rank: 86

L19: Entry 11 of 16 File: USPT Sep 3, 1996

ABSTRACT:

A movable patient supporting portion (10) of a patient couch (A) includes a socket (26) for receiving a mating plug (24) on a localized coil (B). The patient couch selectively inserts the localized coil and a supported patient into a bore (14) of a cryogenic magnet system (C). The localized coil includes a resistor (86) whose magnitude identifies the coil. A coil identification interrogator (84) interrogates the coil identification resistor and derives a corresponding binary coil identification. The coil identification addresses a look-up table (90) to retrieve diagnostic test information, an identification of a coil for a human-readable display, and, preferably, an identification of an isocenter of the coil. A diagnostic test unit (92) electrically tests the coil through the plug and socket connection with the diagnostic tests prescribed by the look-up table. A display interface (94) converts error messages from the diagnostic test unit and the coil identification from the look-up table into appropriate format for a display (40). A couch computer (18) controls a motor (20) in accordance with the isocenter of the coil from the look-up table to control positioning of the patient and the localized coil.

21 Claims, 4 Drawing figures

☐ 14. Document ID: US 3810001 A Relevance Rank: 86

L19: Entry 16 of 16 File: USPT May 7, 1974

US-PAT-NO: 3810001
DOCUMENT-IDENTIFIER: US 3810001 A

TITLE: NUCLEAR MAGNETIC RESONANCE SPECTROSCOPY EMPLOYING DIFFERENCE FREQUENCY MEASUREMENTS

DATE-ISSUED: May 7, 1974

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ernst; Richard Robert	Winterthur			CH

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Varian Associates	Palo Alto	CA			02

APPL-NO: 05/263016 [PALM]
DATE FILED: June 15, 1972

INT-CL-ISSUED: [] G01r 33/08, G01n 27/02

INT-CL-CURRENT:

TYPE IPC	DATE

CIPS G01 R 33/46 20060101
CIPS G01 R 33/44 20060101

US-CL-ISSUED: 324/.5R; 324/.5A
US-CL-CURRENT: 324/313; 324/314

FIELD-OF-CLASSIFICATION-SEARCH: 324/.5R, 324/.5A, 324/.5AC
See application file for complete search history.

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
3287629	November 1966	Varian	324/.5A
3475680	October 1969	Anderson et al.	324/.5A

ART-UNIT: 258

PRIMARY-EXAMINER: Corcoran; Robert J.

ATTY-AGENT-FIRM: Cole; S. Z. Fisher; G. M.

ABSTRACT:

A modified impulse type Fourier transform type of nuclear magnetic resonance spectrometer wherein the direct measurement of difference frequencies between a single reference resonance line and the multiple resonance lines of the sample under analysis is provided, which provides weighting of the sample decay response by its local signal-to-noise ratio resulting in simplified system components and avoidance of stringent conditions with respect to the stability of the static unidirectional magnet field. A non-linear detector forms the desired difference frequencies and weighting function. A first embodiment employs analog-to-digital conversion and a signal averaging computer with the resultant difference frequencies of the sample response Fourier-transformed to obtain the desired spectrum. A second embodiment avoids the analog-to-digital converter and the computer, utilizing instead a form of analog Fourier analyzer to obtain the output spectrum.

8 Claims, 11 Drawing figures

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw. D.

☐ 15. Document ID: US 6838964 B1 Relevance Rank: 86

L19: Entry 3 of 16 File: USPT Jan 4, 2005

US-PAT-NO: 6838964

Remote monitoring of superconducting magnet systems of various types, manufacturers, vintages, and so forth, via a magnet selector interface providing for configuring the monitoring system to the particular magnet system of interest. The technique provides for scalable analogue to digital conversion with integrated excitation circuitry for the input and output of magnet system sensors. Devices, such as remote terminal units and other data-logging technology may be adapted to remotely monitor primary indicators and secondary indicators of magnet system performance and related boil-off of helium. The technique provides earlier warning of impending failures in the magnet system, and thus facilitates predictive maintenance, reduces maintenance costs, reduces MRI downtime, reduces helium loss, and the like.

47 Claims, 5 Drawing figures

☐ 16. Document ID: US 20060173284 A1 Relevance Rank: 86

L19: Entry 1 of 16 File: PGPB Aug 3, 2006

PGPUB-DOCUMENT-NUMBER: 20060173284
PGPUB-FILING-TYPE:
DOCUMENT-IDENTIFIER: US 20060173284 A1

TITLE: Radiofrequency coil and catheter for surface nmr imaging and spectroscopy

PUBLICATION-DATE: August 3, 2006

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Ackerman; Jerome L.	Newton	MA	US
Wedeen; Van J.	Somerville	MA	US

APPL-NO: 10/532156 [PALM]
DATE FILED: October 21, 2003

RELATED-US-APPL-DATA:
us-provisional-application US 60419987 20021021

PCT-DATA:

DATE-FILED	APPL-NO	PUB-NO	PUB-DATE	371-DATE
Oct 21, 2003	PCT/US03/33316			Nov 7, 2005

INT-CL-PUBLISHED:

TYPE	IPC	DATE	IPC-OLD
IPCP	A61B5/05	20060101	A61B005/05

INT-CL-CURRENT:

TYPE	IPC	DATE

CIPP A61 B 5/05 20060101

US-CL-PUBLISHED: 600/422
US-CL-CURRENT: 600/422

ABSTRACT:

In one aspect, the present invention provides a cylindrical meanderline coil that can significantly improve the performance and usefulness of nuclear magnetic resonance (NMR) catheter radiofrequency (RF) coils by shaping the spatial dimensions of the volume of excitation and reception of signal. This can provide improved accuracy in defining the volume of excitation and reception of the subject or specimen, and increase the signal to noise ratio of a received signal. In another aspect, the invention provides an intravascular catheter having a coil at its tip for generating and/or detecting magnetic excitations. A preamplifer coupled to the catheter in proximity of the coil allows amplifying signals generated and/or detected by the coil. Although in one application, a coil and/or a catheter of the invention can be employed, for example, for MR spectroscopy or imaging of biological tissue, such as atherosclerotic plaques arterial walls in the human body, the invention provides similar advantages in any situation where a magnetic resonance or other magnetic induction signal is to be received from a thin cylindrical shell or sector of a cylindrical shell.

RELATED APPLICATIONS

[0001] This application claims priority to provisional application No. 60/419,987 entitled "Radiofrequency coil and catheter for surface NMR imaging and spectroscopy," filed on Oct. 21, 2002.

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Term	Documents
(15 AND 18).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	16
(L18 AND L15).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	16

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10/557,285

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Search Results - Record(s) 1 through 6 of 6 returned.

☐ 1. Document ID: WO 9950681 A1, JP 2002510399 W, EP 985156 A1, US 6154030 A
Relevance Rank: 99

L1: Entry 6 of 6 File: DWPI Oct 7, 1999

DERWENT-ACC-NO: 1999-620075
DERWENT-WEEK: 200225

TITLE: Digital eddy current compensation apparatus in nuclear magnetic resonance instrumentation

INVENTOR: WURL, J G

PATENT-ASSIGNEE: VARIAN INC (VARI)

PRIORITY-DATA: 1998US-0050773 (March 30, 1998)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 9950681 A1	October 7, 1999	E	027	G01R033/565
JP 2002510399 W	April 2, 2002		025	G01R033/32
EP 985156 A1	March 15, 2000	E	000	G01R033/565
US 6154030 A	November 28, 2000		000	G01R033/20

DESIGNATED-STATES: JP AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE CH DE GB LI

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
WO 9950681A1	March 26, 1999	1999WO-US06708	
JP2002510399W	March 26, 1999	1999JP-0549588	
JP2002510399W	March 26, 1999	1999WO-US06708	
JP2002510399W		WO 9950681	Based on
EP 985156A1	March 26, 1999	1999EP-0912916	
EP 985156A1	March 26, 1999	1999WO-US06708	
EP 985156A1		WO 9950681	Based on
US 6154030A	March 30, 1998	1998US-0050773	

INT-CL (IPC): A61B 5/055; G01R 33/20; G01R 33/32; G01R 33/385; G01R 33/54; G01R 33/565; G01V 3/00

USE - For compensating digital eddy current by shaping signal of selected shape in nuclear magnetic resonance instrumentation.

ADVANTAGE - The digital signal processor receives parameter establishing type of pulse and such parameters as required for that type of pulse thereby desired demand is created together with the eddy current corrections. It is only necessary that undesirable responses of physical system are known or can be measured via canonical experiments.

DESCRIPTION OF DRAWING(S) - The figure depicts the block diagram of digital eddy current compensator apparatus.

Converters 102,106

CHOSEN-DRAWING: Dwg.2/5

DERWENT-CLASS: P31 S01 S03 S05 V02
EPI-CODES: S01-E02A1; S01-E02A2; S01-E02A8A; S03-E07A; S03-E07C; S05-D02B1; V02-F01G; V02-F03;

☐ 2. Document ID: US 6108847 A Relevance Rank: 99

L1: Entry 5 of 6 File: USPT Aug 29, 2000

US-PAT-NO: 6108847
DOCUMENT-IDENTIFIER: US 6108847 A

TITLE: Antimicrobial brush

DATE-ISSUED: August 29, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Cueman; Glenn F.	Davidson	NC		
Hanrahan; William D.	Charlotte	NC		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Microban Products Company	Huntersville	NC			02

APPL-NO: 09/309029 [PALM]
DATE FILED: May 10, 1999

PARENT-CASE:
CROSS REFERENCE TO RELATED APPLICATION This application is a continuation-in-part of U.S. patent application Ser. No. 08/855,019 filed May 12, 1997, now abandoned.

INT-CL-ISSUED: [07] A46B 15/00

INT-CL-CURRENT:

for any brush in which bristles are embedded in plastic, including toothbrushes, hair brushes, scrub brushes, toilet bowl brushes, cosmetic brushes, lip-color brushes, etc.

14 Claims, 6 Drawing figures

☐ 3. Document ID: US 6153210 A Relevance Rank: 99

L1: Entry 4 of 6 File: USPT Nov 28, 2000

US-PAT-NO: 6153210
DOCUMENT-IDENTIFIER: US 6153210 A

TITLE: Use of locally delivered metal ions for treatment of periodontal disease

DATE-ISSUED: November 28, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Roberts; F. Donald	Dover	MA		
Friden; Phillip M.	Bedford	MA		
Spacciapoli; Peter	Newbury	MA		
Nelson; Eric	Waltham	MA		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Periodontix, Inc.	Watertown	MA			02

APPL-NO: 08/911413 [PALM]
DATE FILED: August 14, 1997

INT-CL-ISSUED: [07] A61K 33/38, A61K 9/70, A61K 31/765, A61L 15/03

INT-CL-CURRENT:

TYPE	IPC	DATE
CIPS	A61 K 33/24	20060101
CIPS	A61 K 33/30	20060101
CIPS	A61 K 33/26	20060101
CIPS	A61 K 33/34	20060101
CIPS	A61 K 33/38	20060101
CIPS	A61 K 9/00	20060101

US-CL-ISSUED: 424/411; 424/422, 424/424, 424/425, 424/426, 424/435, 424/444, 424/445
US-CL-CURRENT: 424/411; 424/422, 424/424, 424/425, 424/426, 424/435, 424/444, 424/445

Hudson et al Australian and New Zealand Jl. of Ophthalmology(4): 391-394 Argyrol Argyrosis and the Acquisition of Art, Nov. 1985.
Dummett Postgraduate Medicine 49(1): 78-82 Systematic Significance of Oral Pigmentation and Discoloration, Jan. 1971.
Marshall et al Archives of Dermatology 113(8): 1077-1079 Systemic Argyria Secondary to Topical Silver Nitrate, Aug. 1977.
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Jurizcka Haut Arzt 37(11): 628-631 Generalized Argyrosis, Nov. 1986.
MacIntire et al British Medical Journal 2(6154) : 1749-1750 Silver Poisoning Associated with an Antismoking Lozenge, Dec. 23-30, 1978.
Shelton et al British Medical Journal 1 (6158) : 267 Silver Poisoning Associated With an Antismoking Lozenge, Jan. 27, 1979.
Prescott et al Jl. Clin. Pathology 47(6): 556-557 Systemic Argyria, Jun. 1994.
Greene et al American Family Physician 36(6) : 151-154 Argyria, Dec. 1987.
Westhofen et al Areh. Oto-Rhino-caryngology 243(4)260-264 Generalized Argyrosis in Man, 1986.
Capoen et al Arhiu Franc. de Pediatrie 46(1): 49-50 Agryria in Children, Jan. 1989.

Zech et al Nouv. Press Medicine 2 (3) : 161-164 Generalized Argyria Silver mouthwash, Jan. 1973.
Williams, R., Medical Progress: Periodontal Disease, N Engl J Med., 322:373-382 (1990).
Thibodeau, E. A., et al. "Inhibition and Killing of Oral Bacteria by Silver Ions Generated with Low Intensity Direct Current," J Dent Res., 57(9-10): 922-926 (1978).
Russell, A.D. and Hugo, W.B., "Antimicrobial Activity and Action of Silver," Prog Med Chem., 31: 351-370 (1994).
Howell, T.H., et al., "Sulfadiazines reduce gingivitis and plaque formation in beagle dogs," J Clin Periodontol., 17: 734-737 (1990).
Howell, T.H., et al., "Sulfadiazines prevent plaque formation and gingivitis in beagles," J Periodont Res., 25: 197-200 (1990).

ART-UNIT: 164

PRIMARY-EXAMINER: Rose; Shep K.

ATTY-AGENT-FIRM: Clark & Elbing LLP

ABSTRACT:

Periodontal disease can be treated by the administration of metal ions, preferably silver ions, to the site where the microorganisms that cause this disease reside. Administration can be to periodontal pockets or adjacent to exposed tooth roots or alveolar bone during periodontal surgical procedures. The metal ions can be administered in polymeric microparticles, deformable films or microparticles embedded within deformable films. The metal ions are particularly microbiocidal to the bacterial pathogens that are the causative agents of periodontal disease.

12 Claims, 2 Drawing figures

☐ 4. Document ID: US 6154030 A Relevance Rank: 99

OTHER PUBLICATIONS

Article by Jehenson et al., entitled "Analytical Method for the Compensation of Eddy-Current Effects Induced by Pulsed Magnetic Field Gradients in NMR Systems," published in Journal of Magnetic Resonance in 1990, in vol. 90, pp. 264-278.
Article by van Vaals et al., entitled "Optimization of Eddy-Current Compensation," published in Journal of Magnetic Resonance 1990, in vol. 90, pp. 52-70.
Article by Morich et al., entitled "Exact Temporal Eddy Current Compensation in Magnetic Resonance Imaging Systems," published in IEEE Transactions on Medical Imaging in 1988, in vol. 7, No. 3, pp. 247-254.
Article by van Vaals et al., entitled "Optimization of Eddy-Current Compensation", published in Journal of Magnetic Resonance 90 on Oct. 15, 1990, No. 1, pp. 50-70.
Article by Majors et al., entitled "Eddy current Compensation by Direct Field Detection and Digital Gradient Modification", published in Journal of Magnetic Resonance 87 on May 1990, No. 3, pp. 548-553.

ART-UNIT: 282

PRIMARY-EXAMINER: Oda; Christine K.

ASSISTANT-EXAMINER: Fetzner; Tiffany A.

ATTY-AGENT-FIRM: Berkowitz; Edward H.

ABSTRACT:

Eddy current compensation for magnetic field transients arising from electric current transients is obtained by digital computation of the time dependence of the eddy current magnetic effect, reversing the sense thereof to obtain a corrective signal portion, converting both the corrective portion and the basic signal profile to analogue form, summing same and directing the pre-compensated electric current through an inductive element.

13 Claims, 8 Drawing figures

☐ 5. Document ID: US 6844733 B2 Relevance Rank: 99

L1: Entry 2 of 6 File: USPT Jan 18, 2005

US-PAT-NO: 6844733
DOCUMENT-IDENTIFIER: US 6844733 B2

TITLE: Magnetic resonance apparatus with compensation of fields arising due to eddy currents

DATE-ISSUED: January 18, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Heid; Oliver	Gunzenhausen			DE

0 307 516	March 1989	EP
2 180 943	April 1987	GB

ART-UNIT: 2859

PRIMARY-EXAMINER: Arana; Louis

ATTY-AGENT-FIRM: Schiff Hardin LLP

ABSTRACT:

A magnetic resonance apparatus has a magnetic resonance scanner that includes a gradient coil for generating a gradient field, the scanner also has an electrically conductive structure that at least partially envelops the gradient coil, this structure, triggered by a change in the current in the gradient coil, generating an eddy current field having at least one component that compensates for at least one non-linear component of the gradient field within the imaging volume of the scanner, and further has a compensation coil connected in series with the gradient coil and disposed between the gradient coil and the electrically conductive structure, the compensation coil generating a magnetic field that, within the imaging volume, has no linear component and compensates at least for the non-linear component of the gradient field.

10 Claims, 1 Drawing figures

☐ 6. Document ID: US 6903550 B2 Relevance Rank: 99

L1: Entry 1 of 6 File: USPT Jun 7, 2005

US-PAT-NO: 6903550
DOCUMENT-IDENTIFIER: US 6903550 B2

TITLE: Eddy current correction method and magnetic resonance imaging apparatus

DATE-ISSUED: June 7, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Uetake; Nozomu	Tokyo			JP

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
GE Medical Systems Global Technology Company, LLC	Waukesha	WI			02

APPL-NO: 10/772880 [PALM]
DATE FILED: February 5, 2004

field using the calculated value, and if the calculated value exceeds the predetermined upper limit value, a plurality of gradient magnetic fields affected by eddy current are simulated using a plurality of candidate corrective values not greater than the upper limit value, and correction is conducted on the gradient magnetic field using a candidate corrective value by which a relatively optimal gradient magnetic field can be obtained.

16 Claims, 15 Drawing figures

Term	Documents
"6154030"	6
6154030S	0
"6154030".PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	6
(6154030).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	6

Hit List

First Hit | Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Search Results - Record(s) 1 through 16 of 16 returned.

☐ 1. Document ID: US 5227728 A Relevance Rank: 88

L19: Entry 14 of 16 File: USPT Jul 13, 1993

US-PAT-NO: 5227728
DOCUMENT-IDENTIFIER: US 5227728 A

TITLE: Gradient driver control in magnetic resonance imaging

DATE-ISSUED: July 13, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kaufman; Leon	San Francisco	CA		
Carlson; Joseph W.	Kensington	CA		
Gran; Richard	Farmingdale	NY		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
The Regents of the University of California	Oakland	CA			02

APPL-NO: 07/786828 [PALM]
DATE FILED: November 1, 1991

INT-CL-ISSUED: [05] G01V 3/00

INT-CL-CURRENT:

TYPE	IPC	DATE
CIPS	G01 R 33/38	20060101
CIPS	G01 R 33/389	20060101
CIPS	G01 R 33/385	20060101

US-CL-ISSUED: 324/322; 324/318
US-CL-CURRENT: 324/322; 324/318

FIELD-OF-CLASSIFICATION-SEARCH: 324/322, 324/318, 324/312, 324/313, 324/319, 128/653.5
See application file for complete search history.

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
4612596	September 1986	Fox	324/322
4703275	October 1987	Holland	324/322
4755755	July 1988	Carlson	324/319
4788502	November 1988	Keller et al.	324/318
4829252	May 1989	Kaufman	324/309
4885542	December 1989	Yao et al.	324/313
4928063	May 1990	Lampman et al.	324/324
4970457	November 1990	Kaufman et al.	324/309

OTHER PUBLICATIONS

"Passive Screening of Switched Magnetic Field Gradients" by R. Turner et al.-J. Phys. E. Sci., Instrum 19 (1986).

ART-UNIT: 263

PRIMARY-EXAMINER: Arana; Louis

ATTY-AGENT-FIRM: Nixon & Vanderhye

ABSTRACT:

Electromagnet coil driving circuitry in a magnetic resonance imaging system is modified to include a flux-driven closed-loop real-time feedback control. The result is more accurate and efficient control of the net actual gradient flux generated by the coil even in the presence of magnetic circuit materials exhibiting hysteresis effects and/or electrical conductors giving rise to eddy current effects. Such driver control can be used to simultaneously correct the magnetic flux changes induced by environmental, ambient or other outside disturbances affecting the net magnetic field within a patient imaging volume of a magnetic resonance imaging system.

31 Claims, 9 Drawing figures

☐ 2. Document ID: US 5442290 A Relevance Rank: 87

L19: Entry 13 of 16 File: USPT Aug 15, 1995

US-PAT-NO: 5442290
DOCUMENT-IDENTIFIER: US 5442290 A

TITLE: MRI gradient drive current control using all digital controller

DATE-ISSUED: August 15, 1995

5066914	November 1991	Vavrek et al.	324/309
5153516	October 1992	Gopalsami et al.	324/309
5227728	July 1993	Kaufman et al.	324/318
5250901	October 1993	Kaufman et al.	324/318

OTHER PUBLICATIONS

Motorola Manual--"Linear/switchmode Voltage Regulator Handbook", HB206 Rev. 2--pp. 79-143.
J. Phys. E. Sci. Instrum. 19 (1986)--"Passive screening of switched magnetic field gradients" by R. Turner and R. Bowley, pp. 876-879.

ART-UNIT: 268

PRIMARY-EXAMINER: O'Shea; Sandra L.

ASSISTANT-EXAMINER: Mah; Raymond Y.

ATTY-AGENT-FIRM: Nixon & Vanderhye

ABSTRACT:

An all digital controlled current driver is used for each pulsed electromagnet (e.g., gradient coils) in a magnetic resonance imaging (MRI) system. Such an all digital current controller may be advantageously employed in either closed loop or open loop gradient coil control circuits. The elimination of analog components decreases cost, increases operating efficiency and improves operating characteristics of the MRI system.

19 Claims, 6 Drawing figures

☐ 3. Document ID: US 6285304 B1 Relevance Rank: 87

L19: Entry 5 of 16 File: USPT Sep 4, 2001

US-PAT-NO: 6285304
DOCUMENT-IDENTIFIER: US 6285304 B1

TITLE: Analog-to-digital converter circuit and control device for a gradient amplifier of a magnetic resonance imaging system

DATE-ISSUED: September 4, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schweighofer; Peter	Nuernberg			DE

ASSIGNEE-INFORMATION:

ART-UNIT: 289

PRIMARY-EXAMINER: Wamsley; Patrick

ATTY-AGENT-FIRM: Schiff Hardin & Waite

ABSTRACT:

In an analog-to-digital converter circuit and a control device for a gradient amplifier, an analog difference signal is determined from an analog input signal and an analog converter signal. An integrator and an analog-to-digital converter are provided in order to integrate and digitalize the analog difference signal before further evaluation, thereby achieving high precision, resolution and stability with little outlay.

14 Claims, 2 Drawing figures

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw D

☐ 4. Document ID: US 20050052182 A1 Relevance Rank: 87

L19: Entry 2 of 16 File: PGPB Mar 10, 2005

PGPUB-DOCUMENT-NUMBER: 20050052182
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20050052182 A1

TITLE: Apparatus and method for magnetic resonance measurement and mapping of electrical impedance, complex permittivity and complex conductivity as applied to detection and evaluation of sample pathology

PUBLICATION-DATE: March 10, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Wollin, Ernest	Marathon	FL	US

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	COUNTRY	TYPE CODE
Wollin Ventures, Inc.				02

APPL-NO: 10/902263 [PALM]
DATE FILED: July 30, 2004

RELATED-US-APPL-DATA:
Application 10/902263 is a continuation-in-part-of US application PCT/US03/27122, filed August 29, 2003, PENDING
Application is a non-provisional-of-provisional application 60/406924, filed August 30, 2002,

INT-CL-PUBLISHED: [07] G01V 3/00

INT-CL-CURRENT:

TYPE	IPC	DATE
CIPP	G01 V 3/00	20060101

US-CL-PUBLISHED: 324/307; 324/309
US-CL-CURRENT: 324/307; 324/309

REPRESENTATIVE-FIGURES: 1, 7

ABSTRACT:

A method of measurement of or mapping the distribution of complex permittivity, complex conductivity, complex impedance, or electric loss angle during magnetic resonance imaging or analysis. The method includes applying a time-varying electric field of a Faraday shield to a sample and cross-correlating the line spectrum signal so produced with the voltage applied to the Faraday shield in a detection circuit. The method permits non-contrast magnetic resonance screening for breast cancer in vivo and/or continuous measurement of electrical characteristics of materials at variable frequencies in vitro. A system of detecting and evaluating sample pathology includes a Faraday shield device that includes parallel electrodes oriented orthogonal to the static magnetic field of a MRI device to produce a time varying electric field. A detector is coupled to the MRI device to detect at least one of a complex permittivity, a complex conductivity, and an electrical impedance of the sample.

RELATED APPLICATIONS

[0001] This application claims benefit of priority to PCT Application No. PCT/US03/27122, filed on Aug. 29, 2003 and Provisional Application No. 60/406,924, filed on Aug. 30, 2002, incorporated by reference herein in its entirety.

☐ 5. Document ID: US 5876337 A Relevance Rank: 86

L19: Entry 9 of 16 File: USPT Mar 2, 1999

US-PAT-NO: 5876337
DOCUMENT-IDENTIFIER: US 5876337 A

TITLE: Magnetic resonance imaging apparatus and method for correcting the intensity of the static magnetic field of the apparatus

DATE-ISSUED: March 2, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Tsuda; Munetaka	Mito			JP

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE

uniformity of the static magnetic field in a region of an object under examination is improved and image distortion is suppressed. The MRI apparatus can be effectively applied to a fast imaging technique, an imaging technique where NMR signals of adipose tissue are suppressed, and a high resolution spectrum.

17 Claims, 7 Drawing figures

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw. D.

☐ 6. Document ID: US 6362622 B1 Relevance Rank: 86

L19: Entry 4 of 16 File: USPT Mar 26, 2002

US-PAT-NO: 6362622
DOCUMENT-IDENTIFIER: US 6362622 B1

TITLE: Method and apparatus to embed and retrieve attribute information in magnetic resonance imaging coils

DATE-ISSUED: March 26, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Stauber; John R.	Fairview Park	OH		
Burl; Michael	Chagrin Falls	OH		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Philips Medical Systems, (Cleveland) Inc.	Highland Heights	OH			02

APPL-NO: 09/516002 [PALM]
DATE FILED: February 29, 2000

INT-CL-ISSUED: [07] G01V 3/00

INT-CL-CURRENT:

TYPE	IPC	DATE
CIPP	G01 R 33/28	20060101

US-CL-ISSUED: 324/318; 324/322
US-CL-CURRENT: 324/318; 324/322

FIELD-OF-CLASSIFICATION-SEARCH: 324/318, 324/322, 324/300, 324/314, 324/307, 324/309, 600/410, 600/421, 600/423, 340/652, 340/572
See application file for complete search history.

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
4972852	November 1990	Koob et al.	128/653R
5065760	November 1991	Krause et al.	128/653.5
5461314	October 1995	Arakawa et al.	324/318
5657761	August 1997	Okada et al.	128/660.01
5689242	November 1997	Sims et al.	340/652
RE36495	January 2000	Blakeley et al.	600/410

OTHER PUBLICATIONS

Dallas Semiconductor, DS2433 4K-BIT 1-Wire.TM., EEPROM, Dec. 1999, pp. 1-18.

ART-UNIT: 2862

PRIMARY-EXAMINER: Arana; Louis

ATTY-AGENT-FIRM: Fay, Sharpe, Fagan, Minnich & McKee, LLP

ABSTRACT:

A magnetic resonance imaging system includes a patient couch (10) which selectively positions a patient relative to an examination region (14). An imaging coil (B) is disposed adjacent to a region of interest for receiving magnetic resonance signals emanating from the patient. A processor (48) both controls the imaging event and processes received signals from the imaging coil. A plug and socket assembly (24, 26) having a proximal component and a distal component relative to the imaging coil provides selective electrical connectivity between the imaging coil (B) and the processor (48). A non-volatile memory device (86), such as a 1-WIRE.TM. EEPROM, is affixed to the proximal component of the plug and socket assembly (24, 26) for storing a variety attributes associated with the imaging coil. The memory device is most conveniently mounted to a coaxial connector (110).

17 Claims, 6 Drawing figures

☐ 7. Document ID: US 5546001 A Relevance Rank: 86

L19: Entry 12 of 16 File: USPT Aug 13, 1996

US-PAT-NO: 5546001
DOCUMENT-IDENTIFIER: US 5546001 A

TITLE: Switching signal generator and magnetic resonance imaging system using the same

DATE-ISSUED: August 13, 1996

ATTY-AGENT-FIRM: Limbach & Limbach L.L.P. Yin; Ronald L.

ABSTRACT:

There provided is a switching signal generator mounted in a system for handling a signal of a predetermined frequency band. A magnetic resonance imaging (MRI) system is one of the preferred systems. The generator comprises an element for supplying a switching signal of a switching frequency to a switching device mounted in the system and operated by pulse width modulation, the switching frequency being able to be changed in response to a control signal. The generator further comprises an element for adjusting the switching frequency by supplying the control signal to the switching signal supplying element so that a frequency which is product of the switching frequency and an integer falls out of the predetermined frequency band. In case of the MRI system, the predetermined frequency band is an image frequency band. As a result, the so-called F1 noise can be avoidable from the image.

9 Claims, 10 Drawing figures

☐ 8. Document ID: US 5800354 A Relevance Rank: 86

L19: Entry 10 of 16 File: USPT Sep 1, 1998

US-PAT-NO: 5800354
DOCUMENT-IDENTIFIER: US 5800354 A

TITLE: Method of and device for magnetic resonance imaging

DATE-ISSUED: September 1, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hofland; Lennart	Eindhoven			NL
Savord; Bernard J.	Andover	MA		
Scampini; Steven A.	Bedford	MA		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
U.S. Phillips Corporation	New York	NY			02
Hewlett-Packard	Palo Alto	CA			02

APPL-NO: 08/345026 [PALM]
DATE FILED: November 23, 1994

INT-CL-ISSUED: [06] A61B 5/055

INT-CL-CURRENT:

TYPE IPC	DATE

the navigator signals (640) and to apply the derived corrections to the received echo signals (641, 642). Also this method could be combined with ECG-triggering and respiratory gating.

18 Claims, 8 Drawing figures

☐ 9. Document ID: US RE36495 E Relevance Rank: 86

L19: Entry 7 of 16 File: USPT Jan 11, 2000

US-PAT-NO: RE36495
DOCUMENT-IDENTIFIER: US RE36495 E

TITLE: RF coil identification and testing interface for NMR systems

DATE-ISSUED: January 11, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Blakeley; Douglas M.	Euclid	OH		
Molyneaux; David A.	Gainesville	FL		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Picker International, Inc.	Highlands Heights	OH			02

APPL-NO: 09/146889 [PALM]
DATE FILED: September 2, 1998

REISSUE-DATA:

US-PAT-NO	DATE-ISSUED	APPL-NO	DATE-FILED
05551430	September 3, 1996	286780	August 5, 1994

INT-CL-ISSUED: [06] A61B 5/055

INT-CL-CURRENT:

TYPE	IPC	DATE
CIPP	G01 R 33/28	20060101

US-CL-ISSUED: 600/410; 324/318, 324/322
US-CL-CURRENT: 600/410; 324/318, 324/322

FIELD-OF-CLASSIFICATION-SEARCH: 600/410, 600/421, 600/422, 324/307, 324/309, 324/318, 324/322
See application file for complete search history.

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
4972852	November 1990	Koob et al.	128/653R
5065760	November 1991	Krause et al.	128/653.5
5144244	September 1992	Kess	324/322
5457387	October 1995	Patrick et al.	324/318
5461314	October 1995	Arakawa et al.	324/318

ART-UNIT: 377

PRIMARY-EXAMINER: Casler; Brian L.

ATTY-AGENT-FIRM: Fay, Sharpe, Fagan, Minnich & McKee, LLP

ABSTRACT:

A movable patient supporting portion (10) of a patient couch (A) includes a socket (26) for receiving a mating plug (24) on a localized coil (B). The patient couch selectively inserts the localized coil and a supported patient into a bore (14) of a cryogenic magnet system (C). The localized coil includes a resistor (86) whose magnitude identifies the coil. A coil identification interrogator (84) interrogates the coil identification resistor and derives a corresponding binary coil identification. The coil identification addresses a look-up table (90) to retrieve diagnostic test information, an identification of a coil for a human-readable display, and, preferably, an identification of an isocenter of the coil. A diagnostic test unit (92) electrically tests the coil through the plug and socket connection with the diagnostic tests prescribed by the look-up table. A display interface (94) converts error messages from the diagnostic test unit and the coil identification from the look-up table into appropriate format for a display (40). A couch computer (18) controls a motor (20) in accordance with the isocenter of the coil from the look-up table to control positioning of the patient and the localized coil.

30 Claims, 4 Drawing figures

☐ 10. Document ID: US 5938600 A Relevance Rank: 86

L19: Entry 8 of 16 File: USPT Aug 17, 1999

US-PAT-NO: 5938600
DOCUMENT-IDENTIFIER: US 5938600 A

TITLE: Method and device for heating by means of ultrasound

DATE-ISSUED: August 17, 1999

OTHER PUBLICATIONS

Ehman et al, "Adaptive Technique for High-Definition MR Imaging of Moving Structures", Radiology vol. 173 No. 1, 1989 pp. 255-263.
"On-Line MIR Monitored Noninvasive Ultrasound Surgery" K. Hynynen et al, Proceedings of the Annual International Conference of the IEEE Engineering in Medicine and Biology Society, vol. 14, Paris, France, Oct. 29-Nov. 1, 1992.

ART-UNIT: 377

PRIMARY-EXAMINER: Smith; Ruth S.

ATTY-AGENT-FIRM: Renfrew, Jr.; Dwight H.

ABSTRACT:

A method of heating a target region by ultrasound radiation includes determination of a position of the target region by a magnetic resonance method. The device for carrying out this method includes an ultrasound device and an MR device. By determining movement of the target region utilizing the MR device (100) and an appropriate magnetic resonance method, and by coupling the movement information to the ultrasound device (118) by an electric signal (122, 124), it is achieved that the ultrasound device can be controlled by the movement information. Various possibilities exist for controlling the ultrasound device. According to a first possibility, the focal region is adjusted to be situated within the target region in order to generate ultrasound. Another possibility is to determine from the movement information the instant at which the target region is situated within the focal region of the ultrasound and to generate ultrasound exclusively for a brief subsequent period during which the focal region is still within the target region. Another possibility is to refrain from generating ultrasound when the movement speed is too high. Finally, the movement information can also be used for making the focal region follow the target region during the generation of ultrasound.

21 Claims, 10 Drawing figures

☐ 11. Document ID: US 6118681 A Relevance Rank: 86

L19: Entry 6 of 16 File: USPT Sep 12, 2000

US-PAT-NO: 6118681
DOCUMENT-IDENTIFIER: US 6118681 A

TITLE: Gradient amplifier for a magnetic resonance tomography apparatus and method for controlling same

DATE-ISSUED: September 12, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schweighofer; Peter	Nuremberg			DE

ABSTRACT:

In a gradient amplifier for a nuclear magnetic resonance tomography apparatus and a method for operating same, a reference value unit for providing a reference value for a gradient coil current, an actual value unit for determining an actual value of the gradient coil current, a control unit for determining a setting value, a modulator for generating at least one output stage drive signal and an output stage for generating an output signal across the coil are provided. The precision of the reference value and the precision of the actual value are higher by at least the factor of 10 than the precision of the setting value and/or of the at least one output stage drive signal and/or of the output signal. As a result, the gradient amplifier has a precision that is high enough to avoid disturbances affecting in the image can be realized with relatively little outlay.

22 Claims, 1 Drawing figures

☐ 12. Document ID: US 4992736 A Relevance Rank: 86

L19: Entry 15 of 16 File: USPT Feb 12, 1991

US-PAT-NO: 4992736
DOCUMENT-IDENTIFIER: US 4992736 A

TITLE: Radio frequency receiver for a NMR instrument

DATE-ISSUED: February 12, 1991

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Stormont; Robert S.	Waukesha	WI		
Anas; Michael C.	Germantown	WI		
Pelc; Norbert J.	Wauwatosa	WI		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
General Electric Company	Milwaukee	WI			02

APPL-NO: 07/389456 [PALM]
DATE FILED: August 4, 1989

INT-CL-ISSUED: [05] G01R 33/20

INT-CL-CURRENT:

TYPE	IPC	DATE
CIPS	G01 R 33/32	20060101
CIPS	G01 R 33/341	20060101
CIPS	G01 R 33/34	20060101

CIPS G01 R 33/36 20060101

US-CL-ISSUED: 324/309
US-CL-CURRENT: 324/309

FIELD-OF-CLASSIFICATION-SEARCH: 455/60, 375/39, 375/75, 375/99, 375/103, 324/309, 324/310, 324/311, 324/312, 324/313, 324/314, 324/322, 318/611
See application file for complete search history.

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
3423529	January 1969	O'Neill, Jr.	375/39
3443229	May 1969	Becker	375/39
3522537	August 1970	Boughtwood	375/39
4740753	April 1988	Glover	324/320
4839573	June 1989	Wise	318/611

ART-UNIT: 265

PRIMARY-EXAMINER: Tokar; Michael J.

ATTY-AGENT-FIRM: Quarles & Brady

ABSTRACT:

A receiver processes an NMR signal to produce a baseband image information signal from which two quadrature component signals are derived. An intermediate frequency section mixes the received NMR signal with two reference signals to shift the image information into a frequency band having a bandwidth BW and centered at a frequency that is 1.5 times the bandwidth BW. The resultant signal is filtered to remove extraneous signals outside the image information band. An analog to digital converter samples the filtered signal at a rate that is twice the bandwidth BW and digitizes the samples into a digital signal. A quadrature detector derives I and Q output signals from the digital signal by alternately selecting digital samples and negating every other sample selected for each of the I and Q output signals. The quadature detector also digitally filters the I and Q signals which are then used to construct an NMR image.

16 Claims, 10 Drawing figures

☐ 13. Document ID: US 5551430 A Relevance Rank: 86

L19: Entry 11 of 16 File: USPT Sep 3, 1996

ABSTRACT:

A movable patient supporting portion (10) of a patient couch (A) includes a socket (26) for receiving a mating plug (24) on a localized coil (B). The patient couch selectively inserts the localized coil and a supported patient into a bore (14) of a cryogenic magnet system (C). The localized coil includes a resistor (86) whose magnitude identifies the coil. A coil identification interrogator (84) interrogates the coil identification resistor and derives a corresponding binary coil identification. The coil identification addresses a look-up table (90) to retrieve diagnostic test information, an identification of a coil for a human-readable display, and, preferably, an identification of an isocenter of the coil. A diagnostic test unit (92) electrically tests the coil through the plug and socket connection with the diagnostic tests prescribed by the look-up table. A display interface (94) converts error messages from the diagnostic test unit and the coil identification from the look-up table into appropriate format for a display (40). A couch computer (18) controls a motor (20) in accordance with the isocenter of the coil from the look-up table to control positioning of the patient and the localized coil.

21 Claims, 4 Drawing figures

☐ 14. Document ID: US 3810001 A Relevance Rank: 86

L19: Entry 16 of 16 File: USPT May 7, 1974

US-PAT-NO: 3810001
DOCUMENT-IDENTIFIER: US 3810001 A

TITLE: NUCLEAR MAGNETIC RESONANCE SPECTROSCOPY EMPLOYING DIFFERENCE FREQUENCY MEASUREMENTS

DATE-ISSUED: May 7, 1974

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ernst; Richard Robert	Winterthur			CH

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Varian Associates	Palo Alto	CA			02

APPL-NO: 05/263016 [PALM]
DATE FILED: June 15, 1972

INT-CL-ISSUED: [] G01r 33/08, G01n 27/02

INT-CL-CURRENT:

TYPE IPC	DATE

CIPS G01 R 33/46 20060101
CIPS G01 R 33/44 20060101

US-CL-ISSUED: 324/.5R; 324/.5A
US-CL-CURRENT: 324/313; 324/314

FIELD-OF-CLASSIFICATION-SEARCH: 324/.5R, 324/.5A, 324/.5AC
See application file for complete search history.

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
3287629	November 1966	Varian	324/.5A
3475680	October 1969	Anderson et al.	324/.5A

ART-UNIT: 258

PRIMARY-EXAMINER: Corcoran; Robert J.

ATTY-AGENT-FIRM: Cole; S. Z. Fisher; G. M.

ABSTRACT:

A modified impulse type Fourier transform type of nuclear magnetic resonance spectrometer wherein the direct measurement of difference frequencies between a single reference resonance line and the multiple resonance lines of the sample under analysis is provided, which provides weighting of the sample decay response by its local signal-to-noise ratio resulting in simplified system components and avoidance of stringent conditions with respect to the stability of the static unidirectional magnet field. A non-linear detector forms the desired difference frequencies and weighting function. A first embodiment employs analog-to-digital conversion and a signal averaging computer with the resultant difference frequencies of the sample response Fourier-transformed to obtain the desired spectrum. A second embodiment avoids the analog-to-digital converter and the computer, utilizing instead a form of analog Fourier analyzer to obtain the output spectrum.

8 Claims, 11 Drawing figures

☐ 15. Document ID: US 6838964 B1 Relevance Rank: 86

L19: Entry 3 of 16 File: USPT Jan 4, 2005

US-PAT-NO: 6838964

Remote monitoring of superconducting magnet systems of various types, manufacturers, vintages, and so forth, via a magnet selector interface providing for configuring the monitoring system to the particular magnet system of interest. The technique provides for scalable analogue to digital conversion with integrated excitation circuitry for the input and output of magnet system sensors. Devices, such as remote terminal units and other data-logging technology may be adapted to remotely monitor primary indicators and secondary indicators of magnet system performance and related boil-off of helium. The technique provides earlier warning of impending failures in the magnet system, and thus facilitates predictive maintenance, reduces maintenance costs, reduces MRI downtime, reduces helium loss, and the like.

47 Claims, 5 Drawing figures

☐ 16. Document ID: US 20060173284 A1 Relevance Rank: 86

L19: Entry 1 of 16 File: PGPB Aug 3, 2006

PGPUB-DOCUMENT-NUMBER: 20060173284
PGPUB-FILING-TYPE:
DOCUMENT-IDENTIFIER: US 20060173284 A1

TITLE: Radiofrequency coil and catheter for surface nmr imaging and spectroscopy

PUBLICATION-DATE: August 3, 2006

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Ackerman; Jerome L.	Newton	MA	US
Wedeen; Van J.	Somerville	MA	US

APPL-NO: 10/532156 [PALM]
DATE FILED: October 21, 2003

RELATED-US-APPL-DATA:
us-provisional-application US 60419987 20021021

PCT-DATA:

DATE-FILED	APPL-NO	PUB-NO	PUB-DATE	371-DATE
Oct 21, 2003	PCT/US03/33316			Nov 7, 2005

INT-CL-PUBLISHED:

TYPE	IPC	DATE	IPC-OLD
IPCP	A61B5/05	20060101	A61B005/05

INT-CL-CURRENT:

TYPE	IPC	DATE

CIPP A61 B 5/05 20060101

US-CL-PUBLISHED: 600/422
US-CL-CURRENT: 600/422

ABSTRACT:

In one aspect, the present invention provides a cylindrical meanderline coil that can significantly improve the performance and usefulness of nuclear magnetic resonance (NMR) catheter radiofrequency (RF) coils by shaping the spatial dimensions of the volume of excitation and reception of signal. This can provide improved accuracy in defining the volume of excitation and reception of the subject or specimen, and increase the signal to noise ratio of a received signal. In another aspect, the invention provides an intravascular catheter having a coil at its tip for generating and/or detecting magnetic excitations. A preamplifer coupled to the catheter in proximity of the coil allows amplifying signals generated and/or detected by the coil. Although in one application, a coil and/or a catheter of the invention can be employed, for example, for MR spectroscopy or imaging of biological tissue, such as atherosclerotic plaques arterial walls in the human body, the invention provides similar advantages in any situation where a magnetic resonance or other magnetic induction signal is to be received from a thin cylindrical shell or sector of a cylindrical shell.

RELATED APPLICATIONS

[0001] This application claims priority to provisional application No. 60/419,987 entitled "Radiofrequency coil and catheter for surface NMR imaging and spectroscopy," filed on Oct. 21, 2002.

Term	Documents
(15 AND 18).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	16
(L18 AND L15).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	16

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Search Results - Record(s) 1 through 6 of 6 returned.

☐ 1. Document ID: US 6191582 B1 Relevance Rank: 99

L2: Entry 5 of 6 File: DWPI Feb 20, 2001

DERWENT-ACC-NO: 2001-289351
DERWENT-WEEK: 200130

TITLE: Eddy current compensation method for magnetic resonance imaging, involves selecting model from candidate models responsive to stability value of candidate models, based on which eddy current is compensated

INVENTOR: ZUR, Y

PATENT-ASSIGNEE: GENERAL ELECTRIC CO (GENE)

PRIORITY-DATA: 1999US-0358616 (July 21, 1999)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 6191582 B1	February 20, 2001		012	G01V003/00

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
US 6191582B1	July 21, 1999	1999US-0358616	

INT-CL (IPC): G01V 3/00

ABSTRACTED-PUB-NO: US 6191582B
BASIC-ABSTRACT:

NOVELTY - The eddy current field measurements are fitted to several candidate models. Stability value indicating stability of fitted model is assigned to each fitted candidate model. A model is selected from the candidate models responsive to stability value of candidate models. The eddy fields are compensated responsive to selective model.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(a) method of correcting the filter parameters for eddy field compensation filter;

(b) method of adjusting filter parameter of eddy field compensation filter.

USE - For magnetic resonance imaging, localized spectroscopy techniques.

ADVANTAGE - The method of converges correctly even in the presence of noise signal. Eddy field compensation is also suitable for eddy fields of large magnitude.

DESCRIPTION OF DRAWING(S) - The figure shows schematic illustration of MRI gradient coil assembly.

ABSTRACTED-PUB-NO: US 6191582B
EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.1/4

DERWENT-CLASS: S01 S03 S05
EPI-CODES: S01-E02A2A; S03-E07A; S05-D02B2;

☐ 2. Document ID: US 6191582 B1 Relevance Rank: 99

L2: Entry 4 of 6 File: USPT Feb 20, 2001

US-PAT-NO: 6191582
DOCUMENT-IDENTIFIER: US 6191582 B1

TITLE: Eddy current compensation

DATE-ISSUED: February 20, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Zur; Yuval	Haifa			IL

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
General Electric Company	Schenectady	NY			02

APPL-NO: 09/358616 [PALM]
DATE FILED: July 21, 1999

INT-CL-ISSUED: [07] G01V 3/00

INT-CL-CURRENT:

TYPE	IPC	DATE
CIPS	G01 R 33/54	20060101
CIPS	G01 R 33/565	20060101

US-CL-ISSUED: 324/307; 324/309
US-CL-CURRENT: 324/307; 324/309

FIELD-OF-CLASSIFICATION-SEARCH: 324/307, 324/309, 324/322, 324/300
See application file for complete search history.

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
4698591	October 1987	Glover	324/307
4928063	May 1990	Lampman et al.	324/307
5200701	April 1993	Siebold et al.	324/309

OTHER PUBLICATIONS

Gach, H. Michael et al.; "A Programmable Pre-emphasis System"; MRM 40:427-431; 1998.
Van Vaals, J.J. and Bergman, A. H.; "Optimization of Eddy-Current Compensation"; Journal of Magnetic Resonance 90; pp. 52-70; 1990.
Jehenson, P. et al.; "Analytical Method for the Compensation of Eddy-Current Effects Induced by Pulsed Magnetic Field Gradients in NMR Systems"; Journal of Magnetic Resonance 90; pp. 264-278; 1990.
Zur, Yuval and Stokar, Saul; "An Algorithm for Eddy Currents Symmetrization and Compensation"; Magnetic Resonance in Medicine 35:252-260; Feb. 1996.
Morich, Michael A.; "Exact Temporal Eddy Current Compensation in Magnetic Resonance Imaging Systems"; IEEE Transactions on Medical Imaging, vol. 7, No. 3; Sep. 1988.

ART-UNIT: 282

PRIMARY-EXAMINER: Oda; Christine K.

ASSISTANT-EXAMINER: Shrivastav; Brij B.

ATTY-AGENT-FIRM: Cowan, Liebowitz & Latman, P.C. Dippert; William H.

ABSTRACT:

A method of compensating for an eddy field according to measurements of the field. The method includes fitting the measurements of the field to a plurality of candidate models of the field. A stability value indicative of the stability of the fitted model to changes, is assigned to each of the fitted candidate models. A model is selected from the candidate models responsive to the stability values of the candidate models and the eddy fields are compensated responsive to the selected model.

33 Claims, 4 Drawing figures

☐ 3. Document ID: US 6822446 B2 Relevance Rank: 99

6556012	April 2003	Yamashita	324/318
2004/0051530	March 2004	Havens et al.	324/318

OTHER PUBLICATIONS

Edelstein et al., article "Making MRI Quieter" Magnetic Resonance Imaging Vol. 20 Feb. 2002 pp. 155-163.

ART-UNIT: 2859

PRIMARY-EXAMINER: Gutierrez; Diego

ASSISTANT-EXAMINER: Fetzner; Tiffany A.

ATTY-AGENT-FIRM: Horton; Carl B.

ABSTRACT:

A Magnetic Resonance Imaging (MRI) magnet field instability simulator (80) is provided. The simulator includes a rigid body motion generator (82) that simulates motion of one or more MRI system components. An eddy current analyzer (84) generates a magnetic stiffness and damping signal and an electromagnetic transfer function in response to the motions and a cryostat material properties signal. A mechanical model generator (86) generates a mechanical disturbance signal and a mechanical model of one or more MRI system components in response to the motions and the magnetic stiffness and damping signal. A structural analyzer (88) generates a motion signal in response to the mechanical model. A field instability calculator (90) generates a field instability signal in response to the electromagnetic transfer function and the motion signal. A method of performing the same is also provided.

20 Claims, 4 Drawing figures

☐ 4. Document ID: US 6903550 B2 Relevance Rank: 99

L2: Entry 2 of 6 File: USPT Jun 7, 2005

US-PAT-NO: 6903550
DOCUMENT-IDENTIFIER: US 6903550 B2

TITLE: Eddy current correction method and magnetic resonance imaging apparatus

DATE-ISSUED: June 7, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Uetake; Nozomu	Tokyo			JP

ASSIGNEE-INFORMATION:

ABSTRACT:

For the purpose of conducting optimal eddy current correction within a limited output range, a corrective value for eddy current correction for a gradient magnetic field is calculated, if the calculated value does not exceed a predetermined upper limit value, correction is conducted on the gradient magnetic field using the calculated value, and if the calculated value exceeds the predetermined upper limit value, a plurality of gradient magnetic fields affected by eddy current are simulated using a plurality of candidate corrective values not greater than the upper limit value, and correction is conducted on the gradient magnetic field using a candidate corrective value by which a relatively optimal gradient magnetic field can be obtained.

16 Claims, 15 Drawing figures

☐ 5. Document ID: US 6929123 B2 Relevance Rank: 99

L2: Entry 1 of 6 File: USPT Aug 16, 2005

US-PAT-NO: 6929123
DOCUMENT-IDENTIFIER: US 6929123 B2

TITLE: Security disk case

DATE-ISSUED: August 16, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Lau; Kwok Din	Chai Wan			HK

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Finest Industrial Co., Ltd.	Chai Wan			HK	03

APPL-NO: 10/389675 [PALM]
DATE FILED: March 14, 2003

INT-CL-ISSUED: [07] B65D 85/57

INT-CL-CURRENT:

TYPE	IPC	DATE
CIPS	G11 B 23/03	20060101
CIPS	B65 D 85/57	20060101

US-CL-ISSUED: 206/308.1; 206/310
US-CL-CURRENT: 206/308.1; 206/310

as the lid is move to its closed position. The hook can also include an inwardly extending lid tab of the lid and/or a projecting rib of a spine portion of the case.

19 Claims, 8 Drawing figures

☐ 6. Document ID: JP 3678757 B2, GB 2272889 A, CN 1094004 A, GB 2272889 B, TW 318817 A, SG 50672 A1, JP 3166365 B2, KR 275797 B, JP 3553098 B2, CN 1045420 C, JP 3568212 B2 Relevance Rank: 93

L2: Entry 6 of 6 File: DWPI Aug 3, 2005

DERWENT-ACC-NO: 1994-193854
DERWENT-WEEK: 200551

TITLE: Storage case for floppy discs - comprises rectangular box-like lip and base parts hinged to both sides of central spine and each contg. two pairs of ribs for gripping disc

INVENTOR: ASAKURA, H; IWAKI, Y ; KIKUCHI, S

PATENT-ASSIGNEE: SONY CORP (SONY)

PRIORITY-DATA: 1992JP-0345780 (December 25, 1992), 1992JP-0320042 (November 30, 1992), 1992JP-0320043 (November 30, 1992), 1992JP-0320044 (November 30, 1992), 1993JP-0097662 (April 23, 1993)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
JP 3678757 B2	August 3, 2005		007	B65D085/57
GB 2272889 A	June 1, 1994		039	B65D085/57
CN 1094004 A	October 26, 1994		000	B65D085/00
GB 2272889 B	July 31, 1996		001	B65D085/57
TW 318817 A	November 1, 1997		000	B65D085/57
SG 50672 A1	July 20, 1998		000	G11B023/03
JP 3166365 B2	May 14, 2001		007	B65D085/57
KR 275797 B	December 15, 2000		000	G11B023/02
JP 3553098 B2	August 11, 2004		009	B65D085/57
CN 1045420 C	October 6, 1999		000	B65D085/00
JP 3568212 B2	September 22, 2004		009	B65D085/57

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
JP 3678757B2	November 30, 1992	1992JP-0320043	
JP 3678757B2		JP 6156566	Previous Publ.
GB 2272889A	November 26, 1993	1993GB-0024330	